

IN THE CLAIMS

Claim 1 has been amended as follows:

1. (Currently amended) A method for automatically determining a speed of a flowing medium in a magnetic resonance tomography flow measurement, comprising the steps of:

acquiring an overview magnetic resonance image of a selected area of a living subject;

displaying said overview image on a screen;

performing a scout flow measurement by acquiring a magnetic resonance image series of said subject during a motion cycle of said subject at a predetermined speed interval in a tissue area within said overview image, said tissue area containing a flowing medium;

determining from said scout flow measurement, determining a peak speed of said flowing medium in said tissue area;

performing an optimized flow measurement by acquiring respective images, corresponding to selected images in said image series, dependent on said peak speed; and

displaying on said screen a speed-resolved image including said tissue area, obtained by said optimized flow measurement in a display format selected from the group consisting of a speed-resolved image of said tissue area encompassing an average speed of said flowing medium and a speed resolved image of said tissue area together with a generated speed profile of said flowing medium in said tissue area.

2. (Original) A method as claimed in claim 1 comprising automatically performing said optimized flow measurement immediately after performing said scout flow measurement.

3. (Original) A method as claimed in claim 1 comprising adding a safety margin to said determined peak speed.

4. (Original) A method as claimed in claim 3 comprising employing a value as said safety margin that is 10% of said peak speed.

5. (Original) A method as claimed in claim 1 employing a time, as said motion cycle, selected from the group consisting of a breathing cycle of said subject and a cardiac cycle of said subject.

6. (Original) A method as claimed in claim 1 comprising acquiring said image series in said scout flow measurement at approximately 20 images per motion cycle.

Claims 7 and 8 have been cancelled.

7. - 8. (Cancelled)

9. (Original) A method as claimed in claim 1 comprising manually marking said tissue area in said overview image displayed on said screen.

10. (Original) A method as claimed in claim 1 comprising designating a plurality of tissue areas within said overview image, and displaying a speed-resolved image for each of said plurality of tissue areas.

Claim 11 has been amended as follows:

11. (Currently amended) A magnetic resonance imaging device comprising:

a magnetic resonance scanner adapted to receive a subject therein;

a control computer connected to said magnetic resonance scanner;

a display screen connected to said control computer; and

said control computer being programmed to operate operating said magnetic resonance scanner ~~for acquiring to acquire~~ an overview magnetic resonance of a selected area of a living subject, displaying and to display said overview image on a screen, performing and to perform a scout flow measurement by acquiring causing said magnetic resonance scanner to acquire a magnetic resonance image series of said subject during a motion cycle of said subject at a predetermined speed interval in a tissue area within said overview image, said tissue area containing a flowing medium, determining and to determine from said scout flow measurement, determining a peak speed of said flowing medium in said tissue area, performing and to perform an optimized flow measurement by acquiring respective images, corresponding to selected images in said image series, dependent on said peak speed, and ~~displaying on said screen to display~~ a speed-resolved image including said tissue area, obtained by said optimized flow measurement on a screen in a display format selected from the group consisting of a speed-resolved image of said tissue area encompassing an average speed of said flowing medium and a speed

resolved image of said tissue area together with a generated speed profile of said flowing medium in said tissue area.

Claim 12 has been amended as follows:

12. (Currently amended) A computer software product computer-readable medium encoded with a data structure, said computer-readable medium being loadable into a control computer of a magnetic resonance imaging apparatus, said magnetic resonance imaging apparatus including a magnetic resonance scanner operated by said control computer, and a display screen connected to said control computer, and said computer program product running in said control computer and data structure causing said control computer to:

acquire an overview magnetic resonance of a selected area of a living subject;

display said overview image on a screen;

perform a scout flow measurement by acquiring a magnetic resonance image series of said subject during a motion cycle of said subject at a predetermined speed interval in a tissue area within said overview image, said tissue area containing a flowing medium;

determine from said scout flow measurement, determining a peak speed of said flowing medium in said tissue area;

perform an optimized flow measurement by acquiring respective images, corresponding to selected images in said image series, dependent on said peak speed; and

display on said screen a speed-resolved image including said tissue area, obtained by said optimized flow measurement in a display format selected from the group consisting of a speed-resolved image of said tissue area encompassing an average speed of said flowing medium and a speed resolved image of said tissue area together with a generated speed profile of said flowing medium in said tissue area.